UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,910	03/08/2001	Mitsuru Higuchi	OGA-181-USAP	5533

7590 02/27/2004

Ronald R. Snider
Snider & Associates
P.O. Box 27613
Washington, DC 20038-7613

EXAMINER	
NATNAEL, PAULOS M	
ART UNIT	**PAPER NUMBER**
2614	

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/800,910	HIGUCHI ET AL.	
	Examiner	Art Unit	
	Paulos M. Natnael	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **3, 4 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kawai et al**, U.S. Pat. No. 5,**157,490** in view of **Watanabe et al,** U.S. Pat. No. 6,288,748.

Considering claim **3, 4 and 5**, Kawai et al discloses the following claimed subject matter, note;

a) a circuit for generating an interlaced scanning signal for display of an image on a TV monitor from an image signal obtained by an image pickup device, is met by Fig.1;

b) and a progressive resolution conversion circuit for generating a non-interlaced scanning signal with higher vertical resolution than a frame signal for a TV monitor by reading and overlapping same field signals for interlaced scanning, is met by the scanning signal converter **15**, figs. 2 and 3;

c) a field memory for storing a field signal for interlaced scanning, is met by Field memories 17 and 18, fig.3;

Except for;

d) a frame memory for storing a frame signal for non-interlaced scanning.

e) a write/read control circuit for reading twice the same Horz line data of a field signal in said field memory at a double speed of a write speed for the signal, temporarily writing the signal in said frame memory, and controlling the frame signal in said frame memory such that ~~the~~ ~~frame~~ the same horizontal line data of the frame signal can be read twice at a double speed of a write speed of the frame signal, so that high-density data is compressed in the vertical direction and displayed on one screen, thereby obtaining the non-interlaced scanning signal with higher vertical resolution than the frame signal for the TV monitor;

Regarding d), Kawai et al. discloses a video signal of a scanning lines number of 525 lines, field frequency of 59.97 Hz and scanning system interlaced at 2:1 is input into an input terminal 1...and a video signal of a scanning lines number of 525 lines, frame frequency of 29.97 Hz and progressive scanning system is output from the output end of the switch 19. (col. 7, lines 9-26) Watanabe discloses a display device compatible with digital broadcast. Fig.1 of Watanabe illustrates a display device including a frame memory that stores frame signals before being converted to analog signal and transmitted to the display device.

Therefore, it would have been obvious to those with ordinary skill in the art at the time the invention was made to modify the system of Kawai et al. by providing the frame memory of Watanabe in order to store the converted signal in the frame memory so that the video signal is made compatible for display on the display device.

Regarding e), In the scanning line converting circuit 15, the first and second fields of this signal are memorized respectively in the FIFO memories 17 and 18 and are alternately read out in a line period by the switch 19 and thereby, as shown in FIG. 4(b), the input signal is converted to a video signal of a progressive scanning system of a frame frequency of 30 Hz and is output." The write/read circuit is nonetheless well known in the art. Data in and out of the field or frame memories is read from and/or is written into. Watanabe discloses a read clock input to the frame memory. Watanabe discloses "when using a display with a total of 1125 scanning lines and an interlaced display with 1080 effective scanning lines at a vertical synchronizing frequency of 60 Hz, the scanning lines per field will be a repetitive 562.5 lines. Here, fps is an abbreviation signifying units of frames per second, i is the skip scan (interlace), and p is the sequential scanning (progressive). In a digital type high vision system, the vertical synchronizing frequency may be 59.94 Hz in which case the frame frequency will be 29.97 fps. As shown in Item No. 2, a field having 562.5 scanning lines is present along with a field having 563.5 scanning lines for handling a frame frequency that averages 29.97 fps. Further, when using a non-interlace display of 540 effective scanning lines and a total 1125 scanning lines and a vertical synchronizing frequency of

60 Hz as the display device, the scanning lines per field will be a repetitive 562 by 563 lines per field as shown in Item No. 3." (col. 4, lines 37-53)

Kawai et al further discloses "time compressing circuit 32 and 33 in that "The output of the switching circuit 20 is compressed in the time to 1/2 by the time compressing circuit 30 and is output through the switch 33. Also, the output of the switching circuit 21 is delayed by 1/60 second by the delaying circuit 31, is then compressed in the time to 1/2 by the time compressing circuit 32 and is output through the switch 33 which alternately outputs the outputs of the time compressing circuits 30 and 32 in a field period. Thereby, as shown in FIG. 4(c), a progressive scanning system video signal (of a scanning line number of 525 lines) of a frame frequency of 60 Hz will be output from the switch 33. When the temporal component from the adder 36 is turned in the polarity by the polarity turning circuit 28 and is delayed by 1/60 second by the delaying circuit 31 and the switch 33 switches the outputs of the time compressing circuits 30 and 32 in a field period and outputs them, the temporal component will be equivalently converted to a field turning signal and a temporal component of a space frequency of 30 Hz will be reproduced. When this temporal component is added to the resolution signal by the adder 25, the motion at the time of a moving picture will not become unnatural. (col. 9, lines 31-54)

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Kawai by providing the read and write clock circuitry of Watanabe so that the video signals are read correctly from the field memory and written on the frame memory before being output to display device.

Response to Arguments

3. Applicant's arguments with respect to claims 3,4,5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paulos Natnael
February 20, 2004

MICHAEL H. LEE
PRIMARY EXAMINER